

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Office Action dated 24 May 2004. Responsive to the Office Action, Claims 1, 7-8, and 11 have now been amended for further prosecution with the other pending Claims. It is believed that with such amendment of Claims, there is a further clarification of their recitations.

In the Office Action, the Examiner first objected to the Drawings under 37 CFR § 1.83(a) for not showing all of the features specified in the Claims. More specifically, the Examiner stated that the “through hole” and “channel” mentioned in the Claims was not shown. The amendments to Claims 1 and 8 now obviate the Examiner’s objection as to the first of these features. Also, the formally corrected version of Fig. 9 submitted herewith now clearly indicates the “channel” (411) mentioned in the Specification and Claims.

The Examiner objected to the Disclosure for containing certain informalities. These informalities as well as other grammatic and typographic informalities incidentally noted by the undersigned Attorney have now been corrected by this Amendment. The corrections incorporated are purely formal in nature and therefore introduce no new matter.

Also in the Office Action, the Examiner rejected Claims 1-6 and 8-13 under 35 U.S.C. § 112, first paragraph, for containing subject matter not adequately described in the Specification. More specifically, the Examiner directed

clarification regarding the limitation of “the opaque mask having a through hole defined for allowing the semi-conductor image sense chip extending through the opaque mask.” As mentioned, Claims 1, 7-8, and 11 have now been amended. It is believed that the clarifying amendments incorporated thereby now obviate the Examiner’s concerns under 35 U.S.C. § 112, first paragraph.

Also in the Office Action, the Examiner rejected Claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over the Kinsman reference. In setting forth this rejection, the Examiner acknowledged that Kinsman does not specifically mention that the periphery and bottom face of the glass plate is covered with an opaque mask. The Examiner, however, reasoned that this would have been obvious to one of ordinary skill in the art for the purpose of eliminating the entry of unwanted light into the sensor of Kinsman.

The Examiner also rejected Claims 7-13 under 35 U.S.C. § 103(a) as being unpatentable over the Kinsman reference in view of the Yang, et al. reference. In setting forth this rejection, the Examiner cited Yang, et al. for disclosing a lens holder placed on an image sensing semiconductor assembly. The Examiner concluded that it would have been obvious to one of ordinary skill in the art to have incorporated such structure into the Kinsman device.

As each of the newly-amended independent Claims 1 and 7 now more clearly recites, Applicant’s claimed apparatus includes among its combination of features “a glass plate having a bottom face and a side edge portion extending

transversely therefrom,” as well as a semi-conductor sense chip disposed underneath such that its top face opposes the glass plate’s bottom face. The package also includes among its features “an opaque mask formed about the semiconductor image sense chip to extend peripherally outward therefrom,” so as to “peripherally wrap[] the glass plate” and “cover the side edge portion thereof,” as Claims 1 and 7 each now further clarify.

The full combination of these and other features now more clearly recited by Applicant’s pending Claims is nowhere disclosed by the cited references. Note in this regard that Kinsman already prescribes a backing cap 48 (shown in Figs. 10-12) which forms a bottom housing enclosure for the image sensor package 42. This obviates even the need for any “opaque mask formed about the semiconductor image sense chip to extend peripherally outward therefrom,” as now more clearly recited in Claims 1 and 7. Indeed, Kinsman even specifies that this “backing cap 48 is sealed to transparent substrate 18 with a layer or bead of dielectric adhesive 62,” as shown in Fig. 12 (page 5, paragraph 0047). Such sealed coupling to the bottom face of the transparent substrate 18 forecloses any “opaque mask” or other layer from “peripherally wrapping the glass plate to cover the side edge portion” of the transparent substrate, as Claims 1 and 7 further recite.

Given such contrary teachings of the Kinsman reference, the teachings of the secondarily-cited Yang, et al. reference are found to be quite ineffectual to the present patentability analysis. It is respectfully submitted, therefore, that the

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Kinsman and the Yang, et al. references, even when considered together, fail to disclose the unique combination of elements now more clearly recited by Applicant's pending Claims for the purposes and objectives disclosed in the subject Patent Application.

It is now believed that the subject Patent Application has been placed fully in condition for allowance, and such action is respectfully requested.

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